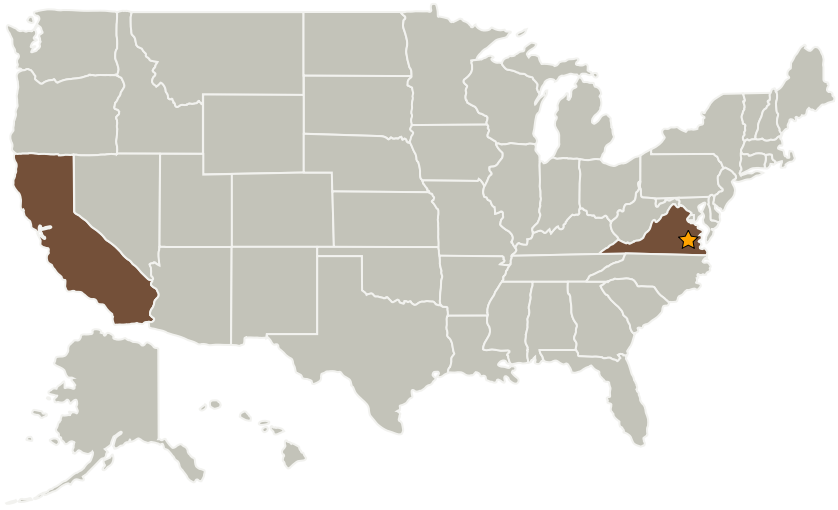
Distributed Reconfigurable Intelligent Multifunctional Autonomous Robust Sensor Systems, Phase I

Completed Technology Project (2005 - 2005)

Project Introduction

Distributed Reconfigurable Intelligent software agent technologies are key and revolutionary technologies that are needed to fulfill spacecraft autonomy and robustness operations capabilities and functions. The Distributed Reconfigurable Intelligent spacecraft autonomy and robustness system integrates real time control and health monitoring with planning and scheduling to achieve the long-term mission objectives. This project develops the Distributed Reconfigurable Intelligent software agents consisting of automation in multi levels, knowledge base, inference mechanism, and communication. The proposed Distributed Reconfigurable Intelligent software agents for operations assistant takes advantage of innovative techniques of individual decision and control methodologies and emphasizes the synergism among all subsystems to assure the overall system performance. At the end of the project, a demonstration system will be established to evaluate the proposed software system.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
American GNC Corporation	Supporting Organization	Industry Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB)	Simi Valley, California

Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Tasso Politopoulos

Technology Areas

Primary:

- TX07 Exploration Destination Systems
  - TX07.3 Mission Operations and Safety
    - TX07.3.2 Integrated Flight Operations Systems